



\$5

Washington Park Arboretum Bulletin

FALL 1997

VOLUME 59 ♦ NUMBER 4

Washington Park Arboretum Bulletin

VOLUME 59, NUMBER 4

Published by The Arboretum Foundation
for the University of Washington

The Arboretum Foundation:

(206) 325-4510 FAX: 325-8893

e-mail: GVC@arboretumfoundation.org

Bulletin Advertising: (360) 297-3887

Gift Shop: 543-8800 UW Programs: 543-8800

THE ARBORETUM FOUNDATION

OFFICERS

John Behnke, President
Carol Niccolls, Secretary
David Hervey, Treasurer
Steve Garber, Immediate
Past President

Vice Presidents
Betsy Fitzgerald
Allan Ferrin
C. David Hughbanks
Chris Marker

STAFF

Deborah Andrews,
Executive Director
Bryan Taulbee,
Administrative Assistant
Sheila Moss,
Development Assistant

CONTRACTORS

Elliott Bronstein, Editor,
Ground Work
Regen Dennis,
Public Relations
Jan Silver, Editor,
Arboretum Bulletin

EDITORIAL BOARD

WASHINGTON PARK ARBORETUM BULLETIN

Jan Silver, Editing/Design	Steven R. Lorton, Northwest
Tom Berger, The Berger	Bureau Chief, <i>Sunset</i>
Partnership, Landscape	<i>Magazine</i>
Architects	Ciscoe Morris,
Richard Contreras,	Horticulturist, Seattle
Arboretum Foundation	University
liaison; VP, Marketing,	Jan Pirzio-Biroli, The
Northern Life	Arboretum Foundation
Jeannine Curry, Secretary	Mary Robson, Extension
Valerie Easton, Book Review	Agent, King County
Editor; Librarian, CUH	David Streatfield, UW Dept.
Stephanie Feeney, author	of Landscape Architecture
Richard Hartlage, Director,	Richard Walker, Ph.D., UW
Elisabeth C. Miller	Dept. of Botany
Gardens	Jan Kowalczewski Whitner,
Daniel J. Hinkley,	author
Heronwood Nursery Ltd.	John A. Wott, Ph.D.,
Arthur R. Kruckeberg,	Director, Arboretum
Ph.D., UW Dept. of	Martha Wingate, Taxonomy
Botany	Editor; CUH

UNIVERSITY OF WASHINGTON

John A. Wott, Ph.D.,	Education Coordinators:
Director, Arboretum	Dave Stockdale
Midori Murai,	Kirsten Bilodeau (temporary)
Registrar (temporary)	Heather Moss (temporary)
Christina Pfeiffer,	Barbara Selemon,
Horticulturist	Propagator

UNIVERSITY OF WASHINGTON CENTER FOR URBAN HORTICULTURE

Clement W. Hamilton,
Ph.D., Director

CITY OF SEATTLE DEPARTMENT OF PARKS & RECREATION

Ken Bounds,
Superintendent

The Cover: *Parrotia persica*



Photo by Joy Spurr

Parrotia persica, known as Persian ironwood, provides interest to the garden in all seasons. Richard Hartlage's article begins on page 14.

The Washington Park Arboretum Bulletin is published quarterly as a bonus of membership in The Arboretum Foundation, Seattle, Washington. Volume 59:4 © 1997 The Arboretum Foundation. ISSN 1046-8749.

The Arboretum Foundation is a nonprofit organization that was chartered to further Washington Park Arboretum development, projects, and programs through volunteer service and fund raising. Its mission is to ensure stewardship for the Washington Park Arboretum, a Pacific Northwest treasure, and to provide horticultural leadership for the region. This stewardship requires effective leadership, stable funding, and broad public support.

Washington Park Arboretum (WPA) is administered cooperatively between the University of Washington (UW), its Center for Urban Horticulture (CUH), and the City of Seattle Department of Parks and Recreation. The programs and plant collections are a responsibility of CUH.

WPA is a living plant museum emphasizing trees and shrubs hardy in the maritime Pacific Northwest. Plant collections are selected and arranged to display their beauty and function in urban landscapes, to demonstrate their natural ecology and diversity, and to conserve important species and cultivated varieties for the future. The Arboretum serves the public, students at all levels, naturalists, gardeners, and nursery and landscape professionals with its collections, educational programs, interpretation, and recreational opportunities.

Contents

- 2 Rehder's *Styrax* Revisited
by Gerald Straley
- 2 Where in the Arboretum?
Rehder's *Styrax* by Christina Pfeiffer
- 6 Sun by Scale, Light by Needle
by Daniel J. Hinkley
- 10 Pruning Trees for Winter Beauty
by Bess Bronstein
- 14 A Fire-Storm of Garnets:
Persian Ironwood
by Richard Hartlage
- 15 Where in the Arboretum?
Persian Ironwood by Christina Pfeiffer
- 16 Rainy Day Escape: British
Columbia by Stephanie Feeney



*Bats in the
Arboretum
Page 22*

*Rehder's Styrax
Page 2*

- 19 Doing What We Do Best:
The Arboretum Foundation
by John Behnke
- 22 In the Washington Park Arboretum
by John A. Wott
- 24 How in the Arboretum?
Fertilizing in Fall
by Christina Pfeiffer
- 25 Planting Noah's Garden
reviewed by Flora Johnson Skelly
- 26 New on the Shelves
by Valerie Easton

In Every Issue~

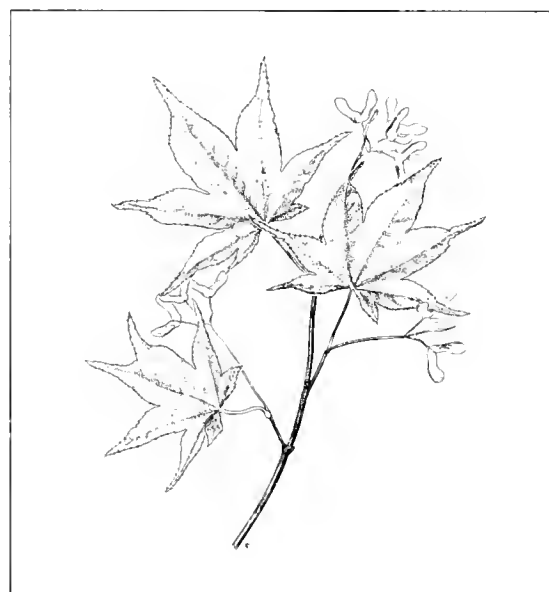
Look for the maple leaf to find

Where in the Arboretum?

places in WPA to see woody plants
discussed in these articles

How in the Arboretum?

information about raising plants and
managing gardens from WPA—
the most diverse collection of woody plants
in the United States.



Rehder's *Styrax* Revisited

PHOTOS, ILLUSTRATIONS, & TEXT

BY GERALD STRALEY

Though *Rehderodendron* is a charming tree with pear-shaped fruit, peach-shaped leaves, and white bell-like flowers, it has yet to be found widely in Northwest gardens. After its discovery in China, the seed was distributed, at first surviving only in England and in Seattle's Washington Park Arboretum (WPA).

The styrax family (Styracaceae) contains a few relatively commonly cultivated and very desirable small trees, most notably *Styrax japonicus* and *S. obassia*, several species of the eastern North American genus *Halesia*, and the epaulette tree, *Pterostyrax*.

A little-known but very attractive tree in the styrax family, *Rehderodendron*, has only been written about several times in North American journals. A short article by former WPA Curator Joseph Witt appeared in a 1974 *Arboretum Bulletin*. The former director of Washington Park Arboretum, Brian O. Mulligan, mentions it in an article on styrax he wrote in 1981. Finally, in 1989, I wrote a short article on the tree in University of British Columbia (UBC) Botanical Garden collections for *Pacific Horticulture*. These three papers likely represent the majority of what has ever been written about this tree in North American horticultural journals.

It is time to sing *Rehderodendron's* praises, again, because new information has come to light about this interesting tree.

Photos

UPPER LEFT AND RIGHT PAGES:

*Fruit of Rehderodendron
macrocarpum.*

LOWER RIGHT, OPPOSITE PAGE:

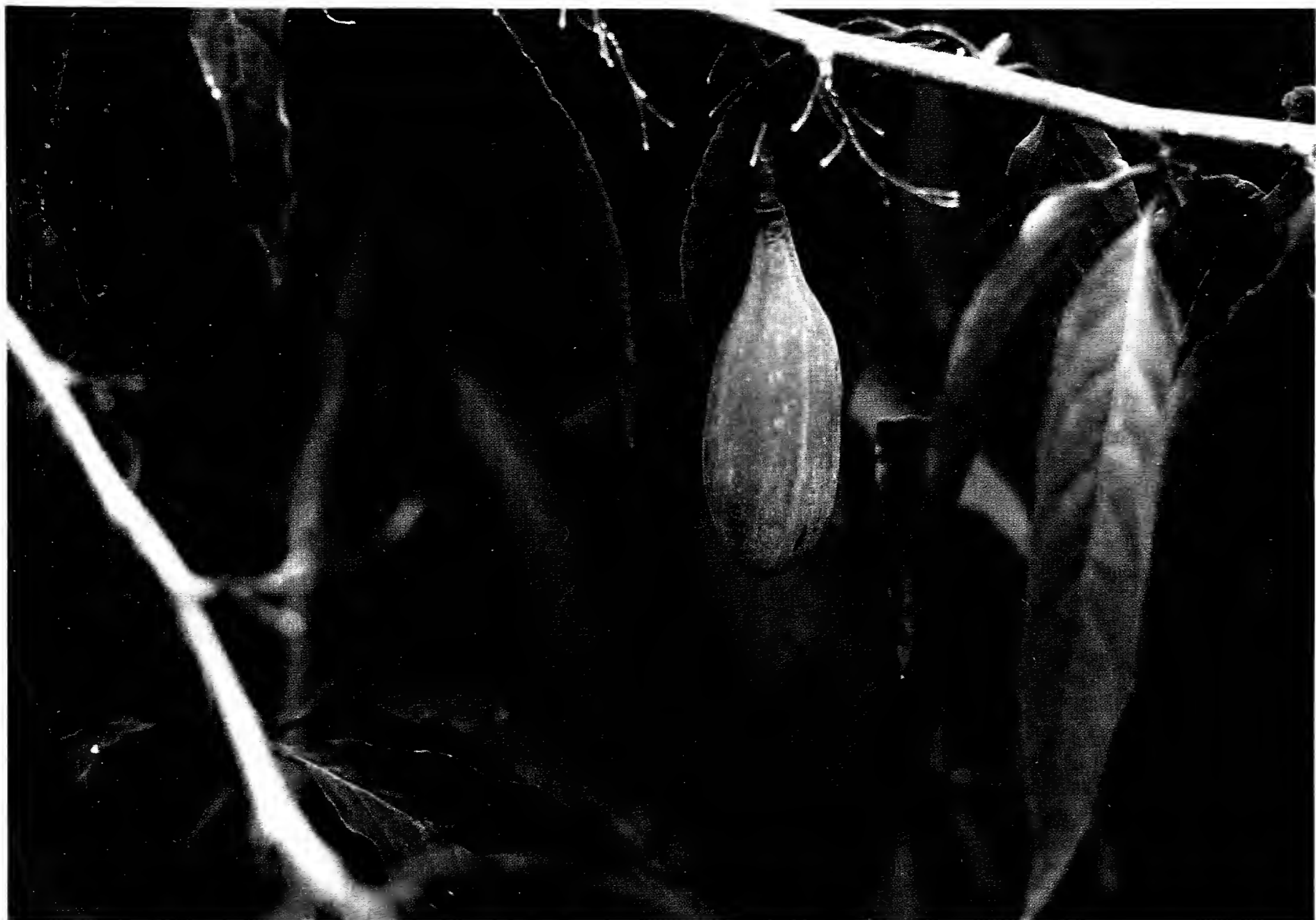
*Rehderodendron in May
flower, in the Asian Garden
at University of British
Columbia Botanical
Garden.*



WHERE IN THE
ARBORETUM?
REHDERODENDRON

The five specimens of *Rehderodendron macrocarpum* in Washington Park Arboretum were grown from seed collected in 1938, making them among the oldest accessions in the collection. One of the easiest to view is along the upper trail in Rhododendron Glen, near the head of the stream (grid 13-6E). Additional plants are located in grid 25-1W, on the hillside south of the Puget Sound Rhododendron Hybrids, grid 33-B in Woodland Garden, and grid 36-B on the north side of the Winter Garden.

Although Gerald Straley notes two bloom times for the *Rehderodendron* in the UBC collection, WPA does not. Over the years, Director Emeritus Brian O. Mulligan kept notes about bloom time in the accession records. There, he lists only single flowering dates each spring for the following dates: 5/24/55, 4/20/83, 5/2/84, 5/6/85, 4/29/88—Christina Pfeiffer, Horticulturist



The generic name, *Rehderodendron*, sounds like a mispronunciation of *Rhododendron*. It is, however, a small genus of some nine or ten species from southwestern China, known to science only since 1930. They differ from *Styrax* primarily in their large, woody, pear-shaped or elongated oval fruits.

Rehderodendron macrocarpum (meaning large-fruited) is likely the only member of the genus in cultivation in North America. It is very rare in gardens here, yet any plant enthusiast who has seen the tree in flower or fruit cannot help but wonder why it has never become better known.

Unfortunately, *Rehderodendron* is also becoming rare in nature, due to over-harvesting for its fine-grained wood, used in furniture making. It is now listed as a vulnerable tree in the *China Plant Red Data Book—Rare and Endangered Plants* (Fu and Jin 1992).

For some time the Western world thought it native only to Omei Shan (Mt. Omei) in southwestern Sichuan Province, China, and some have wondered why it was overlooked by plant-collector E.H. Wilson, on his collecting trips there. Fu and Jin (1992) map a number of other localities in four provinces.

Fortunately for Western horticulture, in 1934, not long after its discovery, seed was sent to the Arnold Arboretum in Jamaica Plains, Massachusetts, which in turn distributed seedlings to a number of institutions in temperate climates. As far as is known, plants in England and Seattle are the only ones that survived from the original seedlings. The name commemorates Alfred Rehder (1863–1949) of the Arnold Arboretum, one of the great woody plantsmen of North American horticulture.

A Small, Charming Tree

Rehderodendron is a most charming tree, growing to at least 50 feet in cultivation (to 60 feet in nature), with sweeping or arching branches that form a very graceful habit.

Dark green, lance-shaped leaves 5–7 inches long have been likened to those of the common

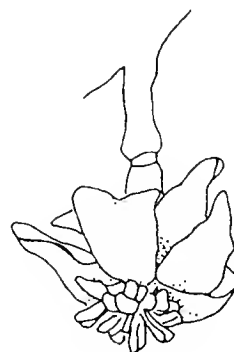
peach. They are offset well by the young red twigs, petioles, and midrib. Usually in May, when the leaves are about half developed, racemes of white bell-like flowers (about an inch long) are produced in abundance, hanging from the limbs and permeating the air with their strong orange-blossom fragrance.

A strange phenomenon with the tree occurs annually at UBC, which I do not think has been reported. Usually in April, about a month before the normal flowers open, some inflorescences produce a few smaller flowers about a third of an inch wide, with pale yellow-green petals that curl backward, revealing a tuft of very short nonfunctional stamens. These flowers always drop off after a week or so. In May the normal, much larger flowers open. I can see no reason why these small flowers are produced, and wonder if this is a characteristic of our tree or of all trees of the species.

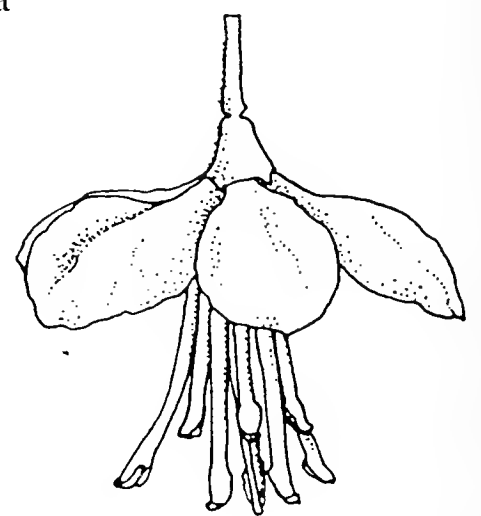
The woody fruits, 2–3 inches long, are green flushed with dull red or copper when fresh, looking like slender pears. As they mature they become bright coppery brown and add another dimension of interest from mid-summer to leaf drop, or sometimes through the winter. There are potentially five long embryos (nearly as long as the fruit) in each woody fruit but only one or two usually develop.

Learning from the Fossil Record

Another interesting related story has come to light, from Dr. Bruce Tiffney, a paleobotanist at the University of California at Santa Barbara.



He tells me that there are preserved fossil fruits whose closest living relative is *Rehderodendron*. These are found in Brandon Lignite from Vermont and also from Europe. The rock is Oligocene or early Miocene in age (30–40 million years ago). It is not a surprise that the hard woody fruits have become fossilized.



Survival through Cooperation

Rehderodendron survival represents a prime example of the cooperation and exchange between gardens throughout the world. The tree cultivated in the Asian Garden at UBC Botanical Garden has a connection between Seattle and Vancouver. We received it as a seedling from the Washington Park Arboretum in 1976. It is now about 30 feet tall, with its sweeping branches at least as wide as the tree is tall. It is very different from the few others that I have seen, including some sister seedlings in Washington Park Arboretum. This may be due to the fact that our specimen is planted in the open on its own, with little or no competition for sunlight.

I also saw one of the original seedlings distributed by The Arnold Arboretum, in Trewithen Garden, in Cornwall, England. It is probably the largest specimen in cultivation, being at least 50 feet tall, with a slender upright habit, but it is among other trees, which have probably had an impact on its size and shape. A few years ago Brian Mulligan wrote me that the original tree in the Arboretum had died a few years before. Recently I walked around the Arboretum and saw a tree with an accession label indicating that it was accessioned in 1939, so this must be one of the originals.

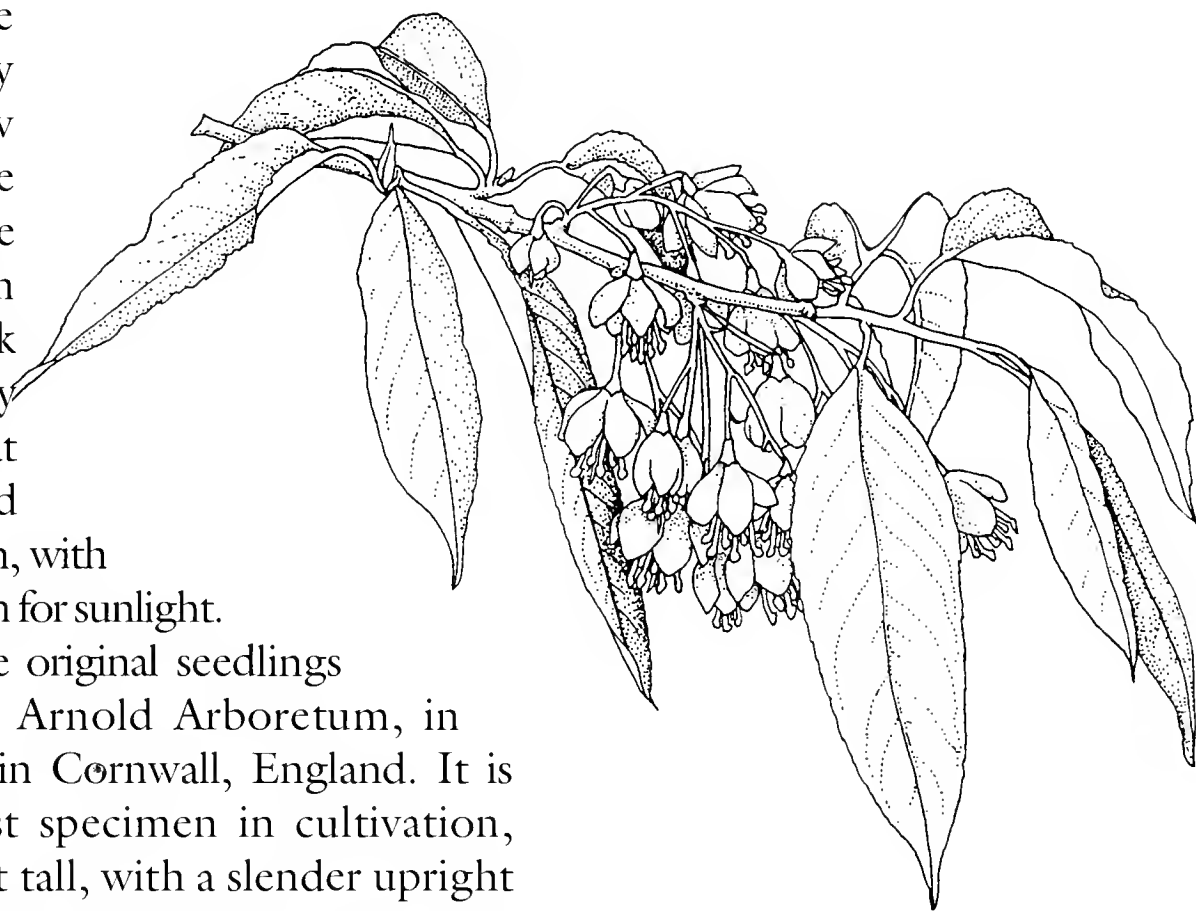
Propagating *Rehderodendron*

The woody fruits are usually buried whole as they cannot easily be opened without damaging the long embryos. Michael Taylor, Manager of Trewithen Nurseries, tells me that they bury the fruits, protect them from rodents (squirrels love the seeds), and allow up to three years for germination. We have not been successful raising seedlings from the UBC tree, although the mother tree in Washington Park Arboretum has produced seeds that have grown. It can also be rooted from cuttings in mid-summer, and air layering or tip layering (if limbs grow close enough to the ground) may work.

Uses in the Landscape

As a specimen tree there are few better small-

to medium-sized flowering trees for the Northwest. I think *Rehderodendron* is a better tree than any of the *Styrax*. It prefers a cool, humus-rich, acidic soil. It grows well in the open, but not in hot, windy spots. It is tolerant of shade, so can be featured in the woodland garden, under high conifers.



Sources

Heronswood Nursery, 7530 NE 288th Street,
Kingston, WA 98346-9502

Alan R. Turner, 1437 - 212th Street, South Langley,
BC V2Z 1T2

References

- Fu, L., and J. Jin (eds.). 1992. *China Plant Red Data Book—Rare and Endangered Plants*. Vol. I. Science Press, Beijing and New York.
- Mulligan, B.O. 1981. "The *Styrax* Family in the Arboretum." *University of Washington Arboretum Bulletin* 44(1):3-10.
- Straley, G.B. 1989. "*Rehderodendron macrocarpum*." *Pacific Horticulture* 50(1):42-44.
- Witt, J.A. 1974. "Arboretum Spotlight—*Rehderodendron macrocarpum*." *University of Washington Arboretum Bulletin* 37(2):25.

Gerald B. Straley is Research Scientist and Curator of Collections, The University of British Columbia Botanical Garden, Vancouver, BC, Canada V6T 1Z4



ABOVE: *Cupressus macrocarpa* 'Aurea' (left) and *Abies koreana* 'Horstmann's Silberlocke' (right). OPPOSITE PAGE: *Abies koreana* 'Aurea'.

BY DANIEL J. HINKLEY

*Aureated, variegated, and unusually colored conifers
bring light into the winter garden.*

After fifteen years in the Puget Sound region, I have come to love, even long for, rain. But even with a perverse desire for perpetual precipitation, I grow weary of too little light from sun and from sky.

The negative greens of native conifers become light sinks during the short days, swallowing any electrons that pierce the leaden canopy of clouds. Partly for this reason, variegated plants, in particular variegated, aureated, and glaucous conifers, are such important components of landscapes. Their reflective qualities punctuate their presence in winter, and enhance the effects of color and texture in the very competitive season of high summer.

The discussion of variegated plants is a fussy business that is seldom straightforward. Color effects within conifers can come from actual mutations that influence the pigmentation of the foliage, a change in the degree of glaucousness, and even the degree of angle of the foliage that simply enhances the colors naturally present.

The aureated or golden variegated conifers certainly comprise the lion's share of truly variegated conifers and are important components of the well-planted Northwest garden. Golden variegation within gymnosperms and angiosperms, alike, is unfortunately often associated with unsightly scalding of foliage. Many golden-foliaged cultivars are resistant to this problem while others will outgrow the propensity to burn in full sun positions once an adequate root system has been established.



Daniel J. Hinkley

Cryptomeria japonica 'Sekkan' is one of the finest selections of the Japanese red cedar that can be grown in the Northwest's climate. It produces an upright, broadly conical tree to 20 feet in 20 years, with sprightly yellow-white foliage in early spring, strengthening to yellow-green by late summer. Though a superb choice for a partially shaded position, it will scorch in full sun. I grow this adjacent to *Aster* 'Porzellan', with sturdy 4-foot black stems and long-lasting composites of silver blue—together a superb effect.

In a much more narrow format is *Cupressus sempervirens* 'Swane's Gold', perfect for vertical accent in the foundation planting, mixed perennial border, or as a narrow hedge. It produces an upright sliver of tarnished gold to 10 feet in height while remaining less than 15 inches in width. Tolerant of full sun, plant this cultivar in well-drained positions.

I originally believed that I had used 'Swane's Gold' to create a semi-circular hedge surrounding a mixed border devoted to blues and yellows. Recently, I discovered it actually was *Cupressus macrocarpa* 'Aurea'. This brilliant golden cultivar of the Monterey cypress shines in both summer and winter, though it ultimately produces a much wider and less tidy tree to 30 feet than its Italian cypress counterpart. By yearly shearing, the form of the hedge stays within bounds.

Species of *Chamaecyparis* (other than the Phytophthora-prone *C. lawsonii*) have given rise to a large number of variations, and many are exemplary in aureated effects. *Chamaecyparis obtusa*, the Hinoki cypress from Japan, is an elegant tree in any format, but especially striking is the gold cultivar known as 'Aurea', which reaches 15 feet. 'Aurea' is elegant and widely spreading with swirls of white golden foliage along the stems. It is resistant to leaf scalding if provided with adequate summer moisture, though it should be planted in well-drained soils. In commerce, *C. o.* 'Crippsii' supersedes 'Aurea', with nearly identical variegation but an overall, more finely textured effect.

For the rock garden or foundation, consider *Chamaecyparis obtusa* 'Nana Aurea', which produces a tight, slowly growing column of bright yellow, to 3 feet after many years. Though it may take decades to achieve a sizable plant, patience is rewarded with a superb, low-maintenance specimen deserving of a place in any garden.

For shade or sun, *Taxus baccata* 'Repens Aurea' is one of the finest conifers I cultivate. In my woodland garden, under extremely shaded conditions, this yew provides a brilliant carpet of striated foliage in greens and yellows, spreading to 3 feet wide and less than 15 inches in height. It serves as a splendid foil to the blue flowers of *Omphalodes cappadocica* in late winter, while reflecting the scarce rays of sun that venture under the Douglas-fir overstory. Yews can tolerate a wide range of soil types, including moist soils, though seem quite content in the summer-dry soils of the woodland. *Taxus baccata* 'Standishii' takes the brilliant color of 'Repens Aurea' to the columnar format of the Irish yew. A dense, narrow pillar of bright golden foliage proves most intensely colored on the sunny side of the specimen, so site it thoughtfully for full effect.

Pinus sylvestris 'Aurea', the golden Scotch pine, remains one of my favorites for the chameleon-like transformation, from summer dress of bluish green to brilliant shades of gold in autumn. Rising to 25 feet or more, it dazzles the garden not only with winter foliage but also its crisped bronzed bark throughout the year.

Many pine species have given rise to forms with a curious but splendid banded variegation that provides a distinct, unique effect. *Pinus wallichiana* 'Zebrina' is perhaps the best known of these plants, though not grown nearly as widely as it deserves. This elegant Himalayan species bears its flaccid 10-inch needles in bundles of five, with each bundle sporting an inch-wide band of gold. Backlit in winter sun, the scene set by sporting multiple bands of gold on a mature specimen is the stuff of weak knees and palpitating hearts.

In a bed that wrests the morning sun is *Pinus parviflora* 'Ogonjanome', which possesses the same yellow pattern of bands but in a smaller format. The Japanese white pine also bears its needles in fascicles of five, though they rarely exceed 3 inches in length. I have intentionally planted it close to the path as it will ultimately create an arch to walk beneath, with concentric yellow circles that glow like a cat's eyes at twilight.

As a group, these pines with banded foliage are called Dragon's eye pines. Though this name is immortalized in Latin by a cultivar of the two-needled Japanese red pine, *Pinus densiflora* 'Oculus Draconis', the identical variegation has

appeared in numerous pine species. All that I encounter deserve use in the gardens of the Pacific Northwest; however, the importance of siting to capture the essential light of early morning or late evening should, by now, be very apparent.

In a discussion of winter russets, the genus *Cryptomeria* again comes to play. *Cryptomeria japonica* 'Elegans' possesses a texture and color unequaled in the plant world. The waxy, finely fretted needles in summer take on a smoky color—a flare of purple suffused in deep green.

During winter, the erect, broad column to 25 feet transforms to copper, which looks as if it has rusted. Integral to any foundation planting or border, this cultivar is remarkable when combined with yellow foliage or flower, irresistible when coupled with silvery blues.

Ah, silvery blue; ask anyone to name a good plant that conjures up blue. "Blue spruce" rolls off the tongue with less thought than "Double tall." I have marveled at mature, intensely blue forms of *Picea pungens*, with needles of glacier-blue waxed in white. Unfortunately, I have never marveled at *Picea pungens* of any kind in the maritime Pacific Northwest. Nor a good blue *Abies concolor*. It is a disservice to offer them for sale and an error to plant them. Blueness in botany speaks of dry cold and summer heat, with Colorado sensibilities and a Midwestern twang.

There are good blue conifers that we can grow; however, good blue conifers are not truly variegated. They simply have upon their needles and scales an excessive waxy coating that makes them glaucous, because white over green reflects as blue.

For this reason, spraying with oil-based pesticides will actually transform your blue conifer to green in just a few moments, though the new growth will return to its original whitish blue.

What we must seek are blue variants of our own native coniferous species. *Abies procera* 'Glaucá', now cherished as a Christmas tree, is an excellent choice, with its severe pyramidal shape and accentuated tiers of frosty blue. Though this form probably originated in a drier climate, it seems to be at home in the Puget Sound region.

Even native Douglas-fir, *Pseudotsuga menziesii*, has excellent blue forms available, many of which indeed do come from its southern, inland range.

Though I grow several named blue forms

of this species, I think the best I have seen is an extant specimen on the eastern slope of the Olympic mountain range, directly along Highway 104 in Quilcene across from the Logger's Cafe. It stands far apart from its greener counterparts, and would make a sensational addition to the conifers we cultivate for the effects of foliage.

Abies koreana 'Horstmann's Silberlocke' certainly deserves mention here; even though relatively new on the scene, it is a remarkable addition to a contingent of conifers with colorful foliage. The effect comes from the carriage of needles, severely twisted upwards to expose white stomatal bands on the undersurface. So accentuated is the effect from this German selection that it appears nearly frosted or flocked, and this single plant elicits the greatest response from visitors to my garden in winter and summer alike. It originates from a beautiful species well adapted to our climate that deserves, in its own right, a place in the garden.

I will never be a proponent of a garden top-heavy in conifers, anymore than one with an over-excess of rhododendrons, Japanese maples, or herbaceous perennials. However, a balance of conifers, especially those that shine in foliage, is critical for carrying our gardens through that challenging, lightless period called winter. With them, our lives and our gardens are much the richer.

Dan Hinkley, plantsman, author, and lecturer, co-owns Heronswood Nursery Ltd. He has been on the editorial board of the *Arboretum Bulletin* since 1988 and is a contributing editor of *Horticulture Magazine*. In the autumn of 1997, Dan returns to Japan and Korea for eight weeks to examine plants in their native habitats for an upcoming book with Timber Press.



Pruning Trees for Winter Beauty

PHOTOS, ILLUSTRATION, & TEXT

BY BESS BRONSTEIN

After the last autumn leaves are finally raked up and composted, the beginning of winter evokes an image of the garden at rest. However, many trees and shrubs provide another season of garden interest once leaves have fallen and unclothed branches are revealed. The graceful form of a weeping Japanese maple, silvery white bark on a paper birch, or the enchanting fragrant yellow blossoms of Chinese witch-hazel attract us to the garden on even the grayest day.

With a plant's structural framework now exposed, early winter is ideal to evaluate pruning needs. Proper pruning done at the appropriate time enhances both the beauty and health of plants that provide winter interest.

"Wander, ponder, and then prune," a wise pruner once said. Before the first cut is made, consider the natural habit of each tree or shrub. Look at branch patterns and trunk lines. Upright or weeping, spreading or narrow, each plant honors its own style and beauty. Pruning should accentuate the fundamental character of the plant rather than detract from it.

Certain basic pruning concepts apply to most plants, regardless of form, size, or leaf type. Often the only pruning necessary is removal of dead, damaged, and diseased branches. Once this

is done, look for "deranged" limbs and twigs, that is, crossing or wrong-way branches that detract from the natural structure of the plant. Take off branches that block pathways, grow into buildings, and interfere with other plants. Use thinning cuts that remove a twig or branch to its point of origin at a larger limb or trunk; be careful not to cut flush into the branch collar.

As you prune each plant, periodically step back and observe the work. It is better to be light-handed when pruning ornamental trees and shrubs. For many plants, removal of one-fifth to one-third of branches is acceptable over one year. Robust cane-growing shrubs, such as red-twig dogwood, can endure more severe dormant season pruning. However, less branch removal is best for trees, such as maples, that may sucker or "bleed" sap in response to winter pruning. Late summer is an excellent time to selectively prune such plants, when leaves have fully expanded and dry weather prevails. In addition to the absence of bleeding sap and reduction of suckering regrowth, deadwood is easier to identify.

Plants that exhibit exceptional form take precedence in the winter garden. The contorted filbert, also known as Harry Lauder's walking stick (*Corylus avellana* 'Contorta'), revels in its twisted branches, forming a silhouette of spiral contortions. Pruning to enhance this attribute consists of selective thinning of small branches to open up the framework when the plant becomes too congested. Also look for the noncontorted rootstock of grafted forms, which often send up straight, "normal" suckers; remove them so as not to interfere with the overall look.

Maples

The maple genus (*Acer* spp.) provides an abundance of plants whose leafless structure draws attention to the garden on gloomy winter days. Various cultivars of Japanese maple (*Acer palmatum*) provide exceptional winter interest through graceful branching patterns and shapes. Varieties range from upright trees with widespreading canopies, to delicately branched weeping forms. Generally you only need to remove dead branches and twigs, though some Japanese maples can develop canopies so dense

PHOTOS: UPPER LEFT, *ACER*
GRISEUM (PAPERBARK
MAPLE). UPPER RIGHT:
CORYLUS AVELLANA
'CONTORTA' (HARRY
LAUDER'S WALKING STICK),
AT HERONSWOOD. BOTTOM:
CORNUS STOLONIFERA
'FLAVIRAMEA' (YELLOW-TWIG
DOGWOOD)

that the inner branches and trunk are not visible. Thin out some of the smaller branches to unveil the hidden form.

After leaf drop in autumn, the bark of several maples attract interest. The paperbark maple (*Acer griseum*) shows off its peeling, cinnamon-colored bark, coralbark maple (*A. palmatum* 'Sango Kaku') displays its orange-red covering, and the vertical white striations of the stripebark maples (*A. davidii*, *A. pensylvanicum*, and *A. tegmentosum*, to name a few) seem to glow on gray days. As with the Japanese maples, pruning may entail only the removal of deadwood and some light thinning cuts to enhance the full glory of the tree.

Timing may be tricky when choosing to prune maples in the Pacific Northwest. During mild winter months, branch removal may result in constant dripping of sap that leads to dieback around the pruning site. Though you can prune later during the dormant season, late summer is often a better time to prune maples.

Birch

The birches (*Betula* spp.) must be addressed when discussing bark interest for winter. The Himalayan white birch (*Betula jacquemontii*) has exceptional white bark even as a young tree, while another popular Asian species, *B. albo-sinensis* var. *septrionalis*, displays lovely bands of pink and silver on its trunk. The river birch (*B. nigra*) has papery bark that peels off in flakes of copper. Always site them away from interfering overhead power lines or trees.

Birches often are subject to severe pruning as a way to control height; when done improperly, they quickly succumb to disease or death. Remove dead, damaged, and diseased wood, and selectively thin to expose the bark. Like maples, birches often respond better to pruning in the summer.

Dogwood

The shrubby dogwoods (*Cornus* spp.) are examples of woody plants grown primarily for winter bark interest. Red-twig dogwood (*C. stolonifera*) and its relative, the yellow-twig dogwood (*C. stolonifera* 'Flaviramea'), form large masses of brilliant colored branches during cold winter months. Since the most vivid color is found on the younger branches, pruning should be done to encourage new growth. On

established plants, cut the stems to within several inches of the ground at the very end of the winter dormant season, before buds begin to swell and new leaves appear. This coppicing every two to three years stimulates new growth, and makes winter color more intense.

Beautiful Brambles

Several of the white-stemmed bramble species (*Rubus biflorus* var. *quinquiflorus*, *R. cockburnianus*) also require regular pruning to enhance bark color in the winter. In this case, older, less colorful canes are regularly removed in winter to allow the existing younger, more colorful, silvery white canes to shine. This also stimulates new cane growth the following season.



WHERE IN THE
ARBORETUM?
WATCHING WINTER
TAKE SHAPE

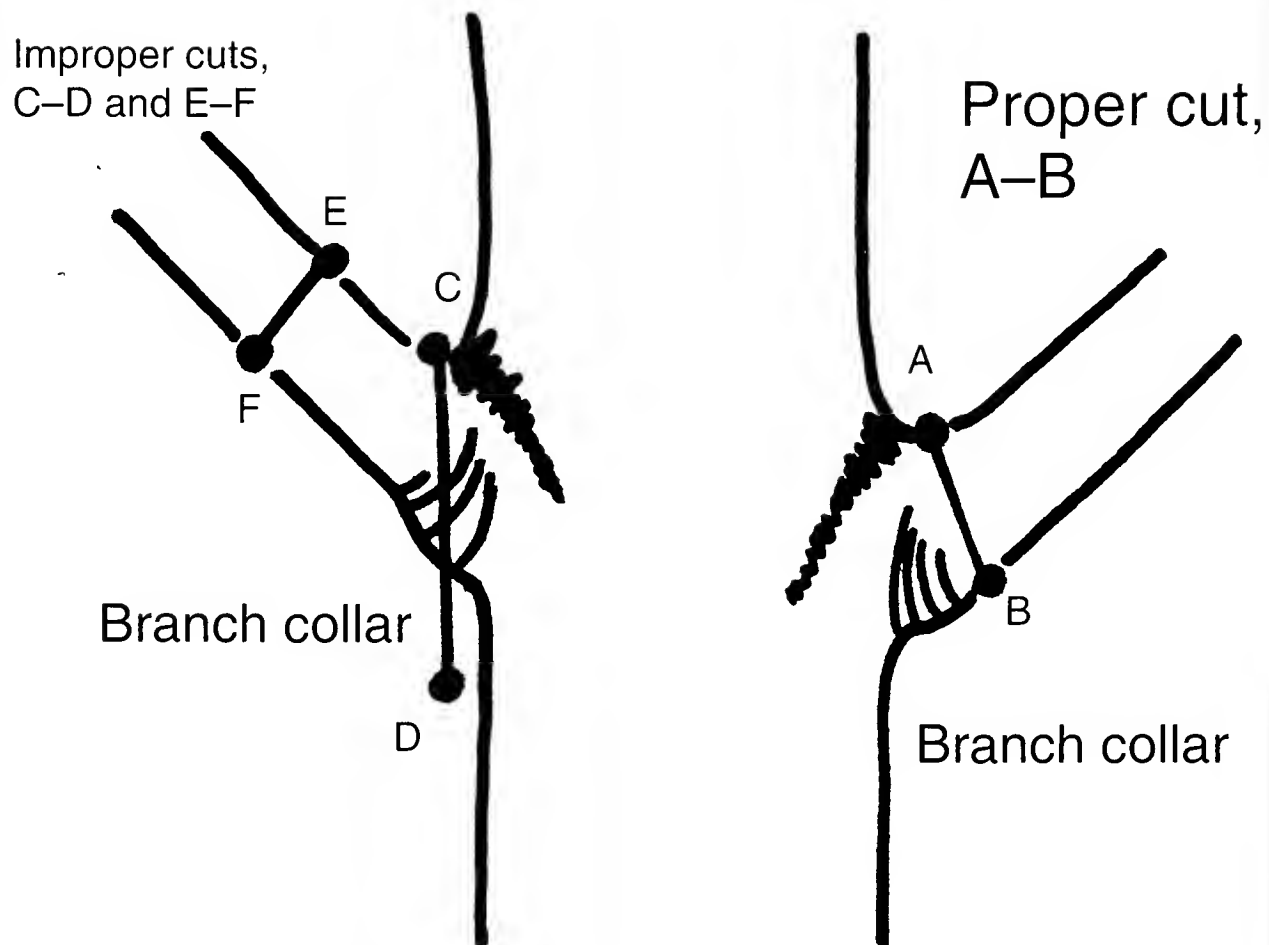


Franklin High School students led by teacher Len Kashmer view the colorful forms taking shape in the Joseph Witt Winter Garden. Red-twig dogwood left, mingles with gray brambles. Yellow blossoms of Cornelian cherry make for a colorful January day. All species mentioned in the companion article can be viewed here.—*Photo by Joy Spurr*

Beneficial Pruning Tips

Use clean, sharp, well-made tools, including bypass hand pruners, loppers, and hand saws. Keep handy a spray bottle of isopropyl alcohol or a ten-percent bleach solution, and disinfect tools when you start on a new tree or shrub. This precaution helps prevent spread of disease among plants being pruned.

—Bess Bronstein



Cut just to the branch collar, leaving it intact (cut A-B). Do not flush cut (cut C-D), which causes damage to the trunk.

Do not leave a stub (cut E-F).

Flowering Trees

Plants that flower during the short days of winter are especially welcome.

Cornus mas. The Cornelian cherry (actually a dogwood species, *Cornus mas*) heralds spring as multitudes of small yellow flowers appear on naked branches in February and March. This small tree rarely requires more than selective removal of dead or crossing branches.

Witch-Hazel. Witch-hazels (*Hamamelis* spp.) provide vivid colors of yellow, orange, or red flowers throughout the winter months, filling the air with delightful fragrance. Suckers at graft unions are common on these shrubs and should be removed, along with any damaged or wrong-way limbs.

Viburnum. No better fragrance can be found than in the winter-blooming viburnum species. *Viburnum farreri*, with white blossoms in mid-winter, and pink-blossomed *Viburnum x bodnantense* varieties, which bloom from late fall through winter, provide unexpected pleasure. Pruning these multi-stemmed shrubs involves selective removal of entire canes in late

winter, in order to maintain an open, graceful habit, and encourage new growth for future years.

Stachyurus praecox. An exceptional late-winter bloomer, *Stachyurus praecox*, is a large multi-stemmed shrub covered with soft yellow drooping flowers on burgundy branchlets. After bloom, remove stems from the base of the plant to maintain openness and enhance its arching form.

As fragrant viburnum blossoms peek through on a nearby shrub and snow settles on the reddish branches of a weeping maple, it is clear that winter interest in the garden abounds. Careful pruning throughout the year promises future enjoyment as well.

Bess Bronstein is a horticulturist and part-time instructor of horticulture at Edmonds Community College in Lynnwood, north of Seattle. She is an International Society of Arboriculture (ISA)-certified arborist based in Kingston, Washington.

A Fire-Storm of Garnets: Persian Ironwood

PHOTOS AND TEXT BY RICHARD HARTLAGE

Each year, one of my favorite trees turns to a fire-storm of garnets. Like an unstoppable metallic locomotive, the intensity builds to sunny golds over the course of the first two weeks of October.

The Persian ironwood, *Parrotia persica*, is an excellent and too infrequently planted large shrub to medium-sized tree for the urban garden or the larger landscape. Generally seen as a giant picturesque shrub with a horizontal habit, it is easily pruned to tree form with single or multiple trunks that have attractive winter bark.

When the leaves are gone in late February, small burgundy clusters of witch-hazel-like flowers appear, giving the effect a subtle red haze descended on the tree, not nearly the show put on by its close cousin the witch-hazel. The coarse branches are dramatic against the winter sky, however. And the flaking bark of the trunk is very beautiful during the long winter, particularly when glazed with a sheen of mist, which is how you are most likely to see it from December through February.

But, hell-fire foliage of autumn makes *Parrotia* one of the most superlative trees of the season.

The typical habit is a large dome-shaped shrub branched to the ground. The sweeping horizontal limbs parallel the garden floor and certainly generate a most stunning form when seen from a distance in the larger landscape. The largest specimen I know is at Biltmore house in Ashville, North Carolina. It grows at the corner of the Walled Garden and must be 40 feet tall and at least as wide. Also looming large in my memory is a lovely tree sitting on the edge of a meadow at Willowood Arboretum in Chester, New Jersey, where I lived and worked before moving to Seattle. Superbly sited against the dark green backdrop of a red spruce grove and a meadow with broom sedge it was delightful to watch the tree and meadow grasses go through their annual autumn spectacle.

The grand or picturesque landscape is not the only place suitable for *Parrotia*, however. At the Elisabeth Miller Gardens in north Seattle, we have a tree about 25 feet tall and 20 feet wide, trained as a single-trunked specimen. The lowest branches were pruned as the tree grew, so that the canopy starts 8 to 10 feet from the ground.



"... a
conflagration of
bronze and gold
with every beech-
like leaf-spray
terminating in a
drooping pennon
of carmine,
biting
brilliancy"—
A. T. Johnson,
A Woodland
Garden



We grow a tapestry of smaller shrubs and perennials at its feet. A spreading shrub of the Chinese witch-hazel under-planted with red-flowering hellebores and double forms of *Ranunculus ficaria* make for a great display in late winter along with hardy geraniums for late summer. Several dwarf conifers add a sense of

solidity to the planting, and all are woven together with a carpet of the wonderful ground-covering fern from New Zealand, *Blechnum penne-marina*. This could be the basis of a very satisfying scheme for entrance gardens with limited space or as part of a larger design as it is in the Miller garden. I plan to add *Fothergilla gardenii* to this planting so I can have a Hamamelidaceae corner.

With the first days of September I begin to look up for signs of the show to come, and sure enough I see a sprinkling of bronze-burnished leaves. As the days pass, more leaves begin to turn. With a gasp of admiration I am grateful to Betty Miller, the garden's late founder, for planting this tree some twenty years ago.

Persian ironwood has no major pests and grows with vigor in nearly any soil. It tolerates poor soils but not wet feet, and it is drought resistant, being a native of northern Iran.

With its slow to moderate growth rate, a small tree would even make a handsome subject for a container for three or four years. I would use a dark-colored stoneware pot that is frost resistant and under-plant with golden bamboo grass and black lily turf (*Ophiopogon planiscapus* 'Ebony Knight'). I might also add a few colchicums to the pot to further celebrate the autumn equinox. Once the tree outgrows the pot you could add it to the garden, or if you are gardening on a balcony, give it to a gardening friend that has space. What a gift.

Richard Hartlage, Director of the Elisabeth C. Miller Gardens in north Seattle, is a member of the editorial board of the *Arboretum Bulletin*.

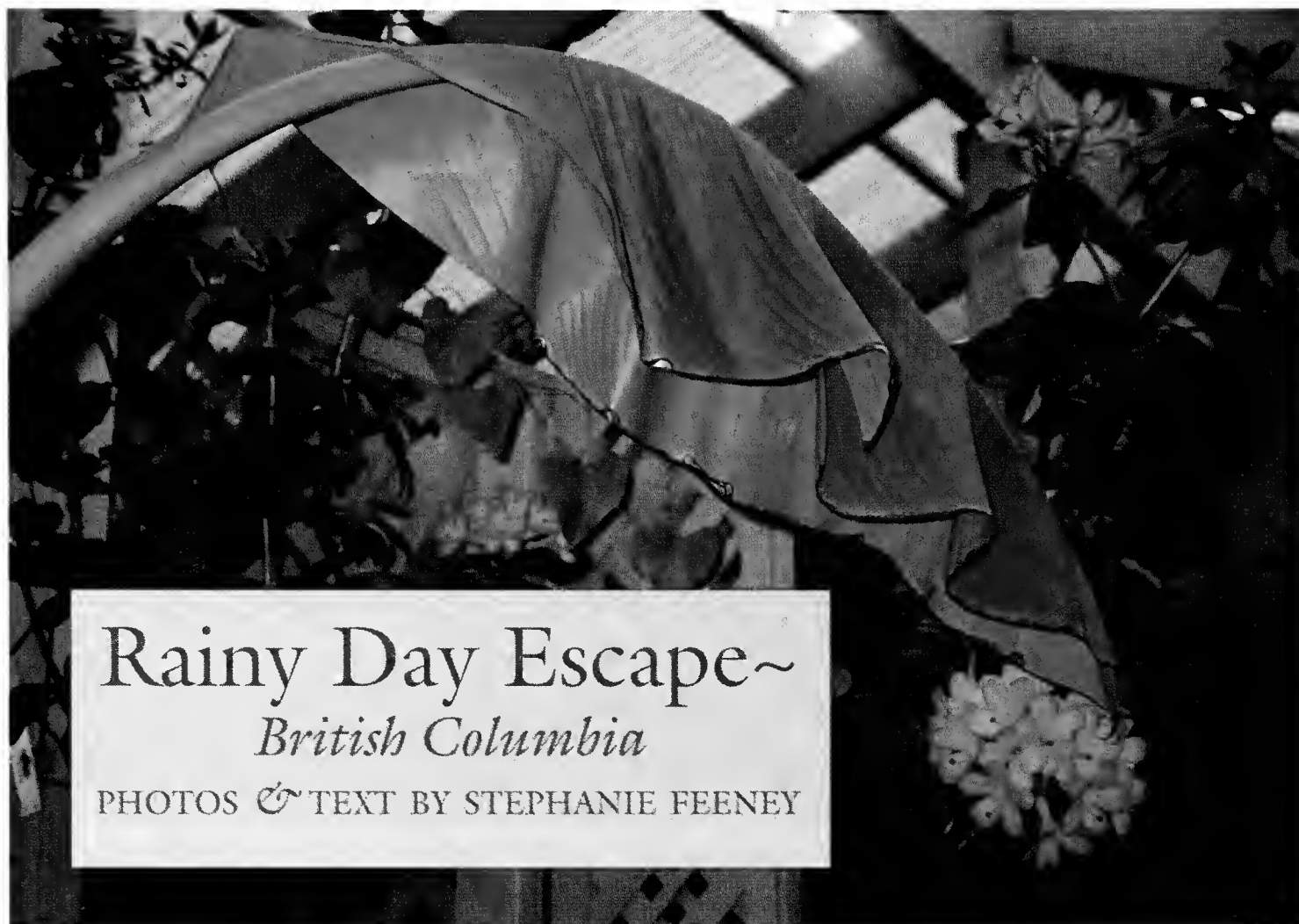


WHERE IN THE ARBORETUM? PARROTIA PERSICA

Two grand mature specimens, planted in 1947, are located in the heart of the Hamamelidaceae collection in grid 7-5E.—Christina Pfeiffer, Horticulturist



Photo by Joy Spurr



In Vancouver, British Columbia, you'll find fascinating gardens and stores, such as Southlands Nursery (illustrated left and right).

In the Pacific Northwest, many idyllically planned gardening trips dawn on dark and blustery days. This prompted me to develop a few alternative itineraries—just in case. I've discovered that you can even welcome a rainy day when traveling afar to visit gardens, garden shops, and related stops.

The Northwest region has many horticultural diversions that are actually enhanced, in my mind, by a nasty downpour. So before the serious winter sets in, consider an excursion to enrich your memory bank with the sensory explosion offered by fall and early winter.

When consulting the calendar for an excursion day, classes, workshops and lectures can play an important role in building an itinerary. So when Vancouver, British Columbia, is my intended destination late this fall, I'll look for what is offered at University of British Columbia Botanical Garden (UBCBG). Or, perhaps, I'll select, "Waking Up Your Plant Brain, Inspired Plantings for an Inspired Future," with Thomas Hobbs, December 2, 8 p.m. at VanDusen Botanical Gardens. Request that you be added to the class brochure mailing lists for UBC, (604) 822-3928, and VanDusen Botanical Gardens, (604) 257-8666, or check www.hedgerows.com for upcoming classes, lectures, workshops, plant sales, etc. for these gardens as well as many area garden clubs.

Should a class not fit into your schedule, there is still plenty to occupy a day in Vancouver. I suggest you make your way north and clear

customs through the so-called "Truck" or Pacific Highway Crossing in Blaine from I-5 at exit 275. I find this route provides the likelihood of a more speedy process, though horticulturally speaking, the Peace Arch crossing is more picturesque: That route passes through gardens shared by the Province of BC and the State of Washington.

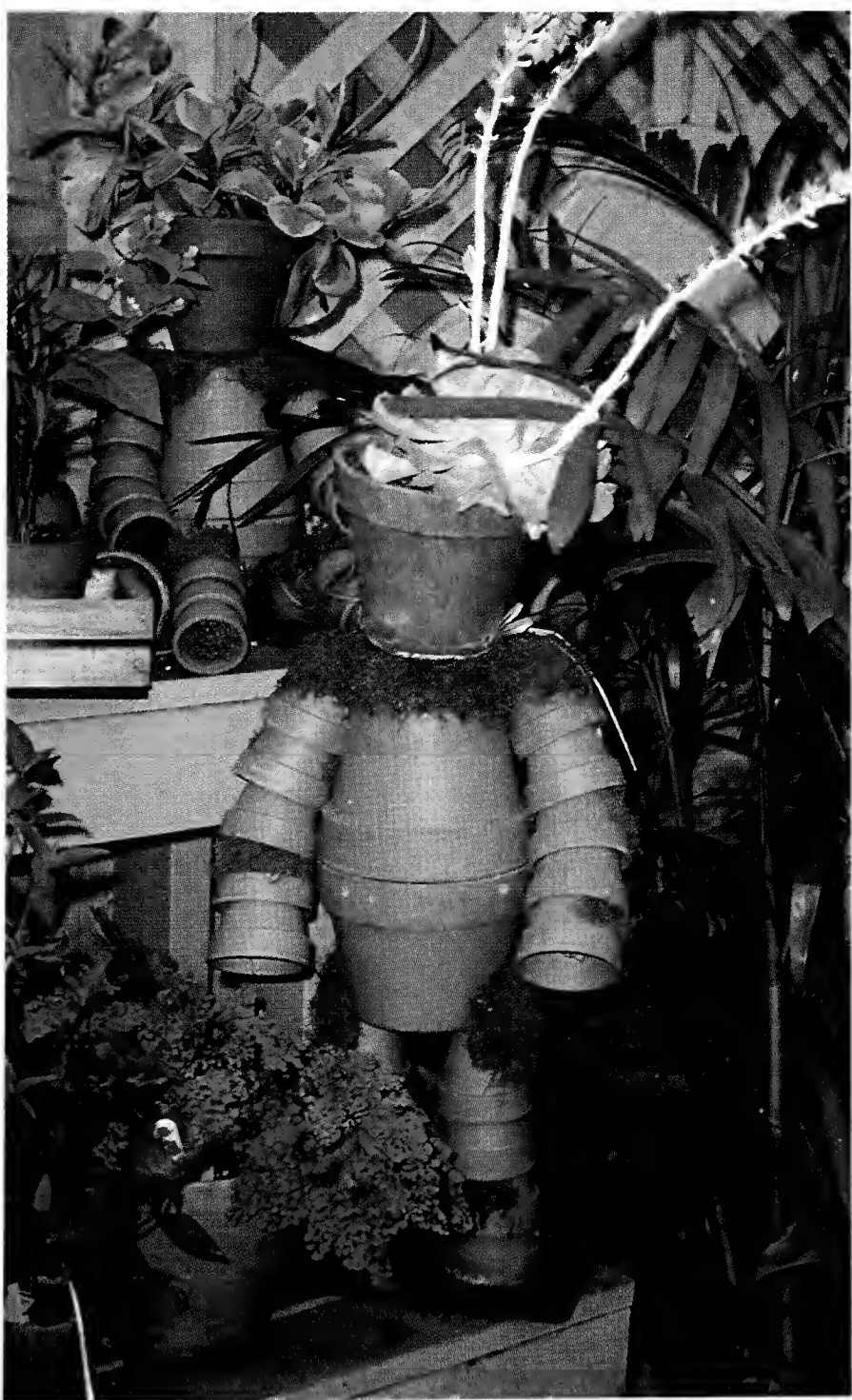
If you follow the Pacific Highway route, once across the border, go to 8th Avenue and turn left at the stop light. Proceed about a mile to 99N and follow the sign for Vancouver. From the Oak Street Bridge, loop down to Lee Valley Tools (open 9 a.m. daily except Sunday). Lee Valley is one of the best sources around for top quality gardening tools and an imaginative array of useful gadgets and gear. Many of the unique selections are not readily found south of the border. Primarily a wood-working tool emporium, the family carpenter will surely want to tarry awhile here as well.

Driving Tip: To get to the next stop, Southlands, from Lee Valley, retrace the route one block back to SW Marine Drive, turn left at the stop light, and carefully sidle over to the right lane, keeping right to avoid the Arthur Laing Bridge on-ramp, and then go a couple of blocks to Granville Street and turn right; in three blocks turn left onto 70th Avenue, which becomes SW Marine Drive again. If it is a slow traffic day, turn left on 49th or on Balaclava, or take advantage of the traffic light a block further along at Blenheim and circle back to 49th and Balaclava.

This drive thrills anyone with a passion for hedging, practiced here for decades as a fine art to lend privacy to the exclusive homes within.

Tucked into an upscale neighborhood, you'll find Southlands Nursery, the creative endeavor of Tom Hobbs and Brent Beattie, and one of my stops whenever I go to Vancouver. Nurseries are not generally on the list for a particularly rainy day, but this one features a classic conservatory filled with extraordinary plants and beguiling statuary, and provides ample entertainment for an extended look. In fall, the orchids are breathtaking and this award-winning collection is sumptuous in bloom, fragrance, foliage, and form. In a setting of massive tropicals and exotic vines, the sound of the rain beating on the glass above is hypnotic.

Though it will be difficult to leave, return to SW Marine Drive, turn left and drive a couple of miles to the UBC Botanical Gardens (turn left at the bright orange signpost). A visit here is on my agenda in every season and in any weather, for there is always much to seek out, even from beneath an umbrella!



In late fall and winter I visit for the large collection of maple species in their brilliant foliage (*Acer palmatum* and *A. japonicum*) and striking bark (*Acer griseum*, *A. davidii*, *A. capillipes*, and *A. rufinerve*). A particular rarity, *A. tschonoskii* var. *rubripes*, was obtained, propagated, and grown through the skills of curator Dr. Gerald Straley. He acquired seed in 1981 from Kwanak Arboretum, Seoul, South Korea. Fetching in a fall cloak of orange-yellow, it is probably best noted in early spring for pinkish-red one- and two-year old twigs. The young twigs are a prelude to the prominent elongated bud scales that enlarge to reveal young reddish leaves (in spring) and later greenish-yellow flowers at the tips of the lateral shoots.

Elsewhere at UBCBG, berries and hips are much in evidence, from the pyrotechnic spindle tree (*Euonymus europaeus*) fruits to the hips of the Kiftsgate-style *Rosa filipes* scrambling rampant into the forest canopy. Before leaving the Botanical Garden, I always pay a visit to the Shop in the Garden, which has the best selection of gardening books in town. Stop at their wonderful little nursery, where you'll find unusual and well-grown plants from the trade. Also on sale at extraordinary prices, you can purchase plants propagated and seeds harvested from the collection by volunteers. For an instructive discussion of taking plants across the border see *The Northwest Gardeners' Resource Directory* (seventh edition, page 180].

The approach of noon will require a decision: eating on the run or enjoying a more formal, leisurely lunch in a spectacular setting.

At Torrefazione Italia, you can purchase an aromatic coffee in an elegant Italian hand-painted cup. The coffee goes well with an innovative selection of hot or cold sandwiches. After lunch, enjoy a sweet from the comfort of a cozy, overstuffed easy chair. In favor of this choice is the close proximity of Hobbs, right across the street, at 2129 W. 41st. This handsome and tempting emporium of botanically inspired accessories for home and garden is directly adjacent to the flamboyant TH Florist shop, under new owners, but retaining much of the originator's flare for the grand and glorious.

A choice for an even more leisurely lunch is the Seasons Restaurant in Queen Elizabeth Park. From Cambie at 33rd, wend your way up the drive past the vast lawns and stately specimen

trees to one of the finest views looking out over the skyline of the city to English Bay and the back-drop of the North Shore mountains. Even on a misty day the atmosphere here is stunning. Lunch is 11:30–2:30 daily, dinner from 5:30; brunch on Saturday is 11:30–2:30, Sunday, 10:30–2:30; Web site: www.settingsun.com/seasons

While at Queen Elizabeth Park, pop into the Bloedel Conservatory, which is close to the restaurant. A highlight for me is to envelop myself in exquisite tropical foliage and brilliant exotic flowers among nearly 100 tropical birds that fly freely through the domed structure. Along with colorful koi in an indoor pond, I feel transported from Northwest monsoon to warmer and sunnier climes.

Pressing on with the afternoon's exploration, make your way over to Main Street, and then follow it west toward the city center. Your destination is Chintz & Company, 950 Homer Street, a stylish and fun home and garden design marketplace, with some of the most unusual and outrageous garden furniture and decor I have encountered anywhere. In particular, check out their market umbrellas, unique metal urns, and

appealing statuary. If you are the least bit an adventurous shopper, prepare to linger here for an extended snoop. Literary sleuths will probably be drawn to explore the horticultural collections of the nearby Vancouver Public Library; its internationally acclaimed architectural splendor is, in and of itself, a draw.

To return to the border, leave downtown by taking the Georgia Street Viaduct (a one-way thoroughfare moving traffic from downtown). Divert onto Main Street, follow it to SW Marine Drive, turn right, and then watch for signs for the connection "to Seattle" via Highway 99 (Oak Street). To access the Truck Crossing (Pacific Highway), with its shorter wait, take the 8th Street east exit from 99N at White Rock. If you have plants and it is late, however, you might be diverted to the Peace Arch crossing, which has longer and later hours for USDA inspectors.

Stephanie Feeney is the author of *The Northwest Gardeners' Resource Directory* (Cedarcroft Press, 59 Strawberry Pt., Bellingham, WA 98226). The Web address is: www.cedarcroft-press.com/home. Stephanie is at work on a book of garden travel itineraries for 1998.

They Grow on People



Invite a friend to join the Arboretum Foundation.

For \$25 a year members receive:

- ◆ Subscription to the *Arboretum Bulletin*, a full-color gardening magazine, *GroundWork* and Urban Horticulture newsletters
- ◆ Gift Shop discounts

- ◆ Pre-sale shopping opportunities at plant sales
- ◆ Discounts for classes, field trips, lectures
- ◆ Satisfaction of supporting efforts to conserve and protect the Washington Park Arboretum

Call 206-325-4510 for details

You'll be helping to ensure the continued vitality of this marvelous resource.



Doing What We Do Best

The Arboretum Foundation

BY JOHN F. BEHNKE,
PRESIDENT, BOARD OF DIRECTORS
PHOTOS BY JOY SPURR

UPPER LEFT: ARBORETUM FOUNDATION PLANT SALE.
LOWER LEFT: ST. ANNE STUDENTS COLLECTING LEAVES.
RIGHT: MICHELLE QUESADA & RORY MAKE CONE CRITTERS.

The past several years have been interesting and exciting for The Arboretum Foundation and its members. We have examined the past and now move toward an exciting future, rich with potential. The Foundation continues to maintain the commitment made in 1935 to be the major support organization for Washington Park Arboretum.

Central to our forward momentum, the Foundation's board of directors commissioned a new master plan—guidelines for the arboretum's growth and change into the 21st century. The board immediately stepped forward, both to make the community more aware of the arboretum and to lead the ambitious capital campaign needed to implement the master plan.

The Portico Group of Seattle, landscape architects, was chosen to research and design the master plan. Portico's planners compiled a very thorough and exacting look at the future of Washington Park Arboretum, one of the three major arboreta in the United States.

It took more than 18 months of intense work with the Arboretum and Botanical Garden Committee, which provides management consultation to the arboretum, to bring this new plan

*Commitments of the past and actions
of the present grow us into the future.*



together. Next is the creation of an environmental impact statement, addressing how the plan's proposed changes and additions might affect the arboretum's use, users, and collections. After that, the final plan will be subject to approval by the University of Washington Regents, the Seattle City Council, the Seattle Mayor's Office, and The Arboretum Foundation Board of Directors.

This, then, is the promise and direction of the future, but we also continue our day-to-day involvement.

Foundation activities are centered largely on events, projects, and programs that involve hundreds of volunteers year-round. Profits from these activities underwrite important work in the arboretum, such as educational programs and the refurbishment of feature gardens, as well as renovation and maintenance of the world-class collections. Also benefiting are members, the public near and far, and serious horticultural students.

Arboretum Foundation at Work

Over the last year, your dues and generous support helped to inspire many people.

🌍 Educational programs for children. Included were Saplings, for grade-school students, and Branching Out, for at-risk youth. New "Explorer Packs" allow children to delve into the arboretum—to get out among the trees and into the wetland and learn to use a microscope or a magnifying glass.

🌍 Puget Sound Hybridizers' Garden. The garden was planned and prepared, and about half of the chosen rhododendron cultivars were planted.

🌍 Flowering cherry test site. A plot of 10 Japanese flowering cherries was planted as a test site for disease resistance, a process the arboretum hopes to use in the Azalea Way renovation.

🌍 Stream and slopes. The stream and slopes in Rhododendron Glen were cleaned up and stabilized.

🌍 Seasonal gardeners. Staff was hired to care for the collections and to clean up and repair extensive damage caused by unusually fierce winter storms.

🌍 The Foundation-funded Signature Bed. This showcase design of plants, maintained by an Arboretum Foundation unit, was a stunning visual treat.



TOP: Sue Brogdon visited from the Chicago Horticultural Society to consult about the arboretum's master plan. Kate Day (right) is with Portico Group, landscape architects, who helped develop the plan. MIDDLE: Pond 2 was restored under the auspices of The Arboretum Foundation.

BOTTOM: Olympic View students participate in Spring Sprouts, a program sponsored by The Arboretum Foundation.

Help from Arboretum Foundation Volunteers

Arboretum Foundation volunteers have the unique opportunity to help the arboretum while learning more about horticulture. Events presented by individual units, for example, continue to supply funds for specific projects.

Unit participation has meant special support: tree preservation and enhancements in Rhododendron Glen, the Magnolia Collection, the Memorial Garden, and Azalea Way.

The long-running Pat Calvert Greenhouse and the Plant Donations Department also provide substantial donations as volunteers learn to propagate, divide, re-pot, and identify plants for sale to the public.

Foundation funding in support of the arboretum has been over \$2 million in the last decade—\$340,000 in the last year alone. The fund-raising efforts have supported the day-to-day costs of operating the arboretum and funding the master plan.

We all can take pride in these reminders of how The Arboretum Foundation fulfills its mission to ensure stewardship and to provide horticultural leadership—today and looking toward the arboretum's exciting future.

John F. Behnke, retired chairman of Fisher Broadcasting, Inc., recently started his second term as Arboretum Foundation president.



PHOTOS

TOP: *Franklin High School student making a bark rubbing during a Family Festival nature hike made possible by The Arboretum Foundation.*

BOTTOM:
Students in the Saplings Program.





In the Washington Park Arboretum



BY JOHN A. WOTT,
DIRECTOR

Bat Research Study

The Arboretum is an ecosystem of plants and animals. Helping us find out about these systems is Scott Pederson and members of Bats Northwest, who are conducting a census of bat species in the arboretum. The members of the survey team are netting and surveying the bats, trying to determine their locations and their water-use patterns.

Bats are unmatched predators of night-flying insects (many of which are troublesome to humans), and are also important prey to species such as owls. Eight species of bats are thought to occur in the arboretum, and one is listed as threatened/endangered. The data gained from this project will be vital for developing future management tactics to maintain appropriate habitat.

Rhododendron Glen

Ground Covers

This fall, we are adding much-needed ground covers to the slopes along Rhododendron Glen. Those currently being propagated by Barbara Selemon in the Union Bay nursery are:

Hydrangea anomala var. *anomala* (35-94), from Heronswood

Gaultheria migueliana (163-96)

Podocarpus nivalis (150-96), from original plant in Rhododendron Glen.

Stream Renovation

During the summer, the Seattle Department of Parks crews installed a new catch basin and asphalt curb on Arboretum Drive, which now diverts water directly into the stream. The University of Washington crew, supervised by Horticulturist Christina Pfeiffer, has added a submerged rock "curb" along the trail that borders

the stream. We continued to add cobbles to aid in the pooling effect.

Damage

This year we have noticed a larger number of dead or dying specimens than those reported last year, most with no obvious cause. We suspect this may be due to the combined stresses from winter storms and excessively wet spring soils. As we remove these specimens, this allows us to add new specimens of known wild-collected genetic background.

Research Studies

CUH Research Professor Sarah Reichard is conducting field research on *Geranium robertianum* (herb Robert), the most prolific weed in the arboretum. Interesting facts so far are: It grows most densely in 90% canopy cover at 250 plants/square meter but with low seed production. In 50%–60% canopy, there are fewer plants

but seed production is 3,100 seeds/square meter. This weed is becoming a threat to natural ecosystems in western Washington. It is now listed as a Class B noxious weed in Washington for 1998, and the worst populations are in King and Jefferson Counties.

Botany student Katrina Dlugosch used the arboretum as one of her study sites for a study of the impacts of English ivy (*Hedera hibernica*) on native forest communities. This study includes a comparison of sites where ivy has been removed during the past year.

Amy Snover, a graduate student in atmospheric chemistry at University of Washington is conducting research on how specific soil types in this region take up and oxidize atmospheric methane. She is using several sites in the arboretum.

Education

Kirsten Bilodeau and Heather Moss job-shared the education and outreach office for the summer months. We had more summer tours than ever, due to increased bookings from many summer-school groups.

Explorer Packs contain supplies and activity suggestions on different topics for youth who wish to enjoy the Arboretum. Erin Lee completed a senior project at University of Washington by constructing new Explorer Packs, so there

are now six types, which are extremely popular. The forest and marsh activity packs were used by 170 children in August alone.

The autumn Saplings Program and the Branching Out Program for children are in full swing, with continuing interest.

Last summer, we co-sponsored a program with Science Adventures, a summer day camp in the Education Greenhouse. The youngsters studied various plants and animals in the arboretum.

Curation

Midori Murai, a graduate student at the Center for Urban Horticulture, is managing the curatorial office and records. The staff has been systematically evaluating all the plants in the nursery and propagation areas based upon the priorities established in the emerging master plan. Now that collection priorities have been identified, it will make it much easier to select new plants.

Rhododendron Hybridizers' Garden

We have been working on selecting additional rhododendron cultivars for planting this fall. The hybridizers' garden has been divided into three time periods, so that a story of rhododendron development can be told. Jack Root, Sylvan Gardens, Bellingham, Washington, who specializes in rhododendrons, has donated immense amounts of time and effort, including helping us to obtain obscure plants. We hope to have over 100 cultivars in this unusual display, all hybridized by Northwest residents.

Visitors

The Arboretum had a September visit from Dr. Kim Tripp, Smith College Botanical Garden. Dr. Tripp is a noted authority on pines. Also in September, 70 members of the International Plant Propagators Society, from 10 countries, toured the Arboretum as my guests, as part of their Northwest Tour.

John A. Wott, professor at the University of Washington, is Director of the Washington Park Arboretum. Dr. Wott is Secretary-Treasurer of the International Plant Propagators Society.



Plant a Seed



With a Bequest

Plant a seed for future generations by making a bequest to The Arboretum Foundation in your will.

Your gift can reduce or eliminate your estate taxes.

And you'll help ensure the vitality of this marvelous resource.

A bequest to The Arboretum Foundation.

It's a seed that will keep growing for years to come.

**Call 206-325-4510
for more details.**



How in the Arboretum?

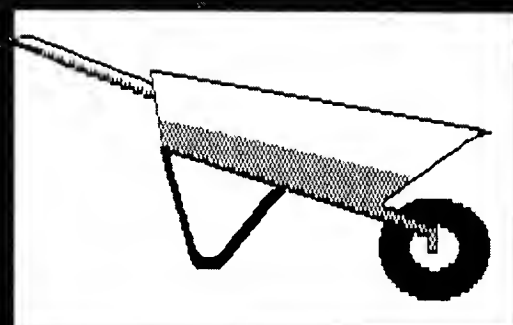
Fertilizing in Fall

Fall is an optimum time to fertilize woody plants, especially those that show signs of stress or that have been planted in the last few years. There is a flush of root growth now. And recent research has found that woody plants draw on stored nutrients when growth begins in the spring. Nutrients supplied in fall will be absorbed and stored, and then be available to fuel new spring growth.

Washington Park Arboretum staff apply modest rates of about two pounds of actual nitrogen per thousand square feet (about two ounces of granular 15-5-10 per three-foot diameter circle). Staff use fertilizer with a slow-release form of nitrogen and also topdress with compost and/or wood-chip mulch to improve overall soil fertility and tilth.

Only apply nitrogen moderately. Over-application can do damage, particularly in fall and especially on stressed plants.—

Christina Pfeiffer, Horticulturist



Book Review Section

Planting Noah's Garden: Further Adventures in Backyard Ecology.

Sara Stein. New York: Houghton Mifflin, 1997. Hard cover, \$35.00.

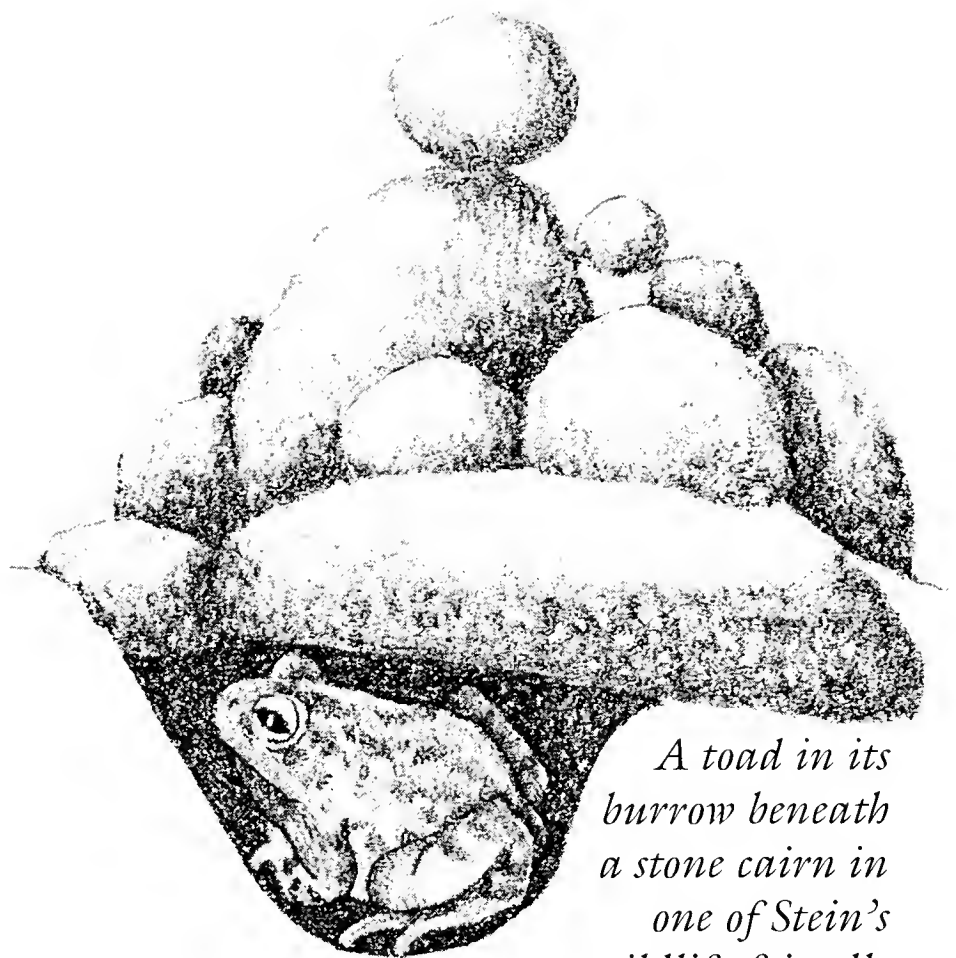
Sara Stein's 1993 *Noah's Garden: Restoring the Ecology of Our Own Back Yards* (Houghton Mifflin) was not the first book to advocate gardening practices that benefit wildlife. Numerous how-tos followed creation of the National Wildlife Federation's Backyard Habitat Program in 1973.

But *Noah's Garden* captured imaginations in a way no others have. Stein has emerged as perhaps our strongest voice speaking against the deadly duo of development and conventional gardening, which is turning ever-larger areas into wildlife wastelands.

Stein's latest, *Planting Noah's Garden: Further Adventures in Backyard Ecology*, will not disappoint her many fans. At 438 pages, it is substantially longer than its predecessor. The book chronicles the progress of Stein's Pound Ridge, N.Y., garden and visits other wildlife-friendly gardens around the United States (one in Oregon). Stein even describes her design and installation of a half-acre habitat garden in a suburban New Jersey development.

Native-plant enthusiasts will be especially pleased with this book, which reflects Stein's growing commitment to ecosystem preservation and restoration. *Planting Noah's Garden* includes a moving plea for gardeners to use more native plants and forgo any non-natives deemed troublemakers in natural areas.

Part one is written in the style that sets Stein's work apart from more plain-spoken guides. The approach is personal, a near-diary of her life since publication of *Noah's Garden*. Organization, though present, is rarely obvious; she seems to meander from one topic to another as though presenting information in the order in which she learned it, even as it occurs to her. The writing is metaphor-laden: A forked taproot is "dancing"; conventional garden plants "have addresses," "get married," and "complain continually of their spots."



A toad in its burrow beneath a stone cairn in one of Stein's wildlife-friendly gardens.

The second part of the book is more conventionally organized and simply written, with materials on site preparation, choosing plants, and other practical information.

Anyone seriously interested in wildlife-friendly gardens will want *Planting Noah's Garden*. But a beginner may find a book such as Marcus Schneck's *Your Backyard Wildlife Garden: How to Attract and Identify Wildlife in Your Garden* (Emmaus, PA: Rodale, 1992) easier to use. Those looking for information specific to the Pacific Northwest will prefer April Pettinger's *Native Plants in the Coastal Garden: A Guide for Gardeners in British Columbia and the Pacific Northwest* (Vancouver/Toronto: Whitecap, 1996), which contains a chapter on wildlife-friendly gardening.

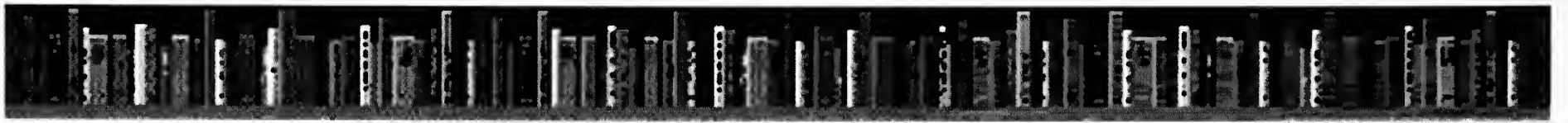
And, if you have not yet taken an interest in the wild creatures of your garden, well, please read Stein, read Schneck, read something. Start somewhere, while there are still creatures left in your garden to enjoy. —Reviewed by Flora Johnson Skelly

Flora Johnson Skelly is founder and president of the Wild Gardeners and a columnist on wildlife-friendly gardening for *Northwest Garden News*. Her Web site at www.wildwords.com/ contains information on wildlife-friendly gardening.



New on the Shelves

BY VALERIE EASTON



Ballard, Helen. *Helen Ballard: The Hellebore Queen*. Edited by Gisela Schmiemann. Koln, Germany: Edition Art and Nature, 1997. An awkward translation from the German does not mar the overall worth of this gorgeous book. The editor worked with Helen Ballard in the last years of her life to complete the notes and ideas compiled over thirty years devoted to hybridizing hellebores. Ballard is most famous for breeding blue hellebores; her final named plant, 'John Burbeck', is deep purple-black with dark-tinged foliage.

If you are not already a hellebore fanatic, the truly spectacular photos of flowers and foliage by Josh Westrich will seduce you into that group of plant fanciers. Each plant is shown in dramatic close-up sheer color and form against a stark white backdrop. Apricot, soft yellow, salmon pink, and a deep mauve named 'Rembrandt' are just a few of the hellebores highlighted in this tribute to a devoted plantswoman.

Packer, Jane. *Living With Flowers*. Vermont: Trafalgar Square Publishing, 1997. Jane Packer has moved past the elaborate floristry of her earlier books, and compiled ideas for simple arrangements showcasing the beauty of readily available flowers. Most of us don't have the time, tools, or expertise to create large, elegant arrangements, so welcome Packer's focus here

on smaller-scale arrangements of found objects, fruit, vegetables, and garden flowers. City, country, sea, and garden are explored for their possibilities for providing materials. Colorful photos and detailed instructions show the results; sea holly and shells in glass bottles, a brown-glazed pitcher stuffed with a loose bunch of daffodils, or a hollowed-out pumpkin filled with hot orange gerbera daisies.

Macunovich, Janet. *Caring for Perennials: What to Do and When to Do It*. Pownal, Vermont: Storey Communications, 1996. When and how to divide that overgrown clump of daylilies or asters, pruning for plant health, and which tools are really necessary—any gardener in the second or third year of growing perennials needs practical help with all these questions and many more.

Macunovich, owner of a landscape design company specializing in perennials, promises that with proper organization you can have a spectacular perennial garden with only one hour of work per month per 100 square feet of garden space. Prioritizing, planning, and record-keeping, as well as basic techniques such as weeding, staking, and deadheading, done properly and at the right time, are the tricks of the trade clearly detailed in this thorough manual.



McNeilan, Ray, and Jan McNeilan. *The Pacific Northwest Gardener's Book of Lists*. Dallas: Taylor Publishing Co., 1997. I admit I was skeptical. Who needs more lists, let alone lists for the Pacific Northwest published in Texas? But this book is fun and may well serve to spark interest in growing something new. More an anthology of people, information, and ideas than just lists, the text is enlivened by photos and quotes from great Northwest gardeners and professionals in the field. Lists, such as "Ornamental Grasses That Will Not Take Over," "Clematis for Every Season," and "Annuals That Will Re-Seed Themselves," show the level of detail throughout the book and the expertise of the authors (both long-time extension agents in Oregon).

Phillips, Roger, and Martyn Rix. *The Random House Book of Perfect Plants*. New York: Random House, 1996. This latest in the series of excellent plant books by Phillips and Rix (perennials, roses, shrubs) is a selective guide to garden-worthy plants. The authors have chosen plants they feel are the best in their class from seven different groups: trees, shrubs, roses, perennials, bulbs, alpiners, and annuals. As with their other books, clear color photographs show close-up details as well as plants growing in the garden and in native habitats.

While it is nice to have so much information and so many photos (more than 1500) in one volume, I think gardeners would welcome some discussion of the garden-worthiness of these plants—why they were chosen and how best to use them in the garden. Such brief text and familiar photos lead one to believe that this book is just a compilation (albeit a selective and abridged one) of all the previous books by these collaborators.



Also New

Clarke, Ethne. *Gardening with Foliage Plants: Leaf, Bark, and Berry*. New York, NY: Abbeville, 1997.

Clebsch, Betsy. *A Book of Salvias: Sages for Every Garden*. Portland, OR: Timber Press, 1997.

Gillmore, Robert. *The Woodland Garden*. Dallas, TX: Taylor Publishing Company, 1996.

Kingsbury, Noel. *Dramatic Effects with Architectural Plants*. Woodstock, NY: The Overlook Press, 1997.

Matthews, Victoria, ed. *Contemporary Botanical Artists: The Shirley Sherwood Collection*. London: Weidenfeld & Nicolson, in association with the Royal Botanic Gardens, Kew, 1996.

Vitale, Alice Thoms. *Leaves: In Myth, Magic & Medicine*. New York, NY: Stewart, Tabori & Chang, 1997.

Weaver, William Woys. *Heirloom Vegetable Gardening: A Master Gardener's Guide to Planting, Growing, Seed Saving, and Cultural History*. New York, NY: Henry Holt and Company, 1997.

Wydra, Nancilee. *Feng Shui in the Garden: Simple Solutions for Creating Comforting, Life-Affirming Gardens of the Soul*. Chicago: Contemporary Books, 1997.

Freelance writer Valerie Easton is an editorial board member of the *Bulletin*. Valerie is Library Manager, at the University of Washington's Center for Urban Horticulture, in the Elisabeth C. Miller Library. The Miller Library is the one of the largest horticultural libraries on the West Coast.





**A personal approach
to professional
asset management and
trust administration**



Niki Hermanson 206•464•5209
Barbara Potter 206•464•5292

Norton Building
801 Second Avenue, 16th Floor
Seattle, WA 98104



*Visit our new
nursery
in downtown
Stanwood
(360) 652-7226*

*We offer an enticing
selection of common
and uncommon plants.*

- Over 700 rose varieties
(call for our free list)
- Hundreds of different perennials
- A complete selection of fruit trees,
berries, herbs, and seeds for
Western Washington

*Northwest Flower & Garden Show winner
for three consecutive years*

1578 Best Road • Mount Vernon
(360) 466-3821 • Open 9-6

CHRISTIANSON'S
Nursery & Greenhouse

Growing Strong for 25 Years.

"When horticultural luminaries are in town,
this is where they are taken for a look-see.
I can count on Wells-Medina year round to
be in top form, so I often stop for a
horticultural pick-me-up."

"Many of the unusual plants or varieties
you've been searching for they have found
first and have awaiting your arrival. I often
find other plant aficionados who have
traveled as far as I have come to enjoy a
look around."

-Stephanie Feeney

*The Northwest Gardener's Resource Directory,
1995*



WELLS MEDINA
N U R S E R Y

Growing Strong for 25 years.

8300 Northeast 24th Street • 454-1853

DRIVING DIRECTIONS: FROM 405: Take the exit onto
520 westbound toward Seattle and exit at 92nd St. Go
over the freeway heading south on 92nd St. to 24th St.
Turn right and watch for the nursery 1/2 block past the
stop light at 84th St. (mind the 25 mph speed limit!)
FROM I-5: Take Hwy. 520 eastbound towards Bellevue.
Take the first exit after crossing the bridge and turn right
onto 84th St. At 24th St. turn right 1/2 block.



Olympic Coast Garden

Many named varieties of
asters, also a wide selection of
other field grown perennials
shipped. Descriptive catalog \$1.

84 Eaton Lane
Sequim, WA 98382

GREENSLEAVES NURSERY

The Best in Perennials and Flowering Shrubs,
English Roses (over 40 varieties) and
Old Roses. Many Varieties of Hydrangeas,
Peonies and Tree Peonies.

16215 140th PL NE • Woodinville, WA 98072
483-9382

Summer in the Garden Room at Cafe Flora



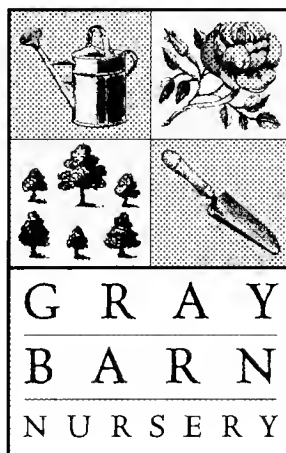
2901 East Madison,
Seattle, 98112
(206) 325-9100

*One block from
the Washington
Park Arboretum*



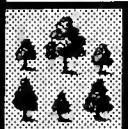
O P E N S E V E N D A Y S A W E E K

The Great Garden Resource.



*Come visit us seven days a week and see why the Gray Barn Nursery
is the Northwest's premier garden resource.*

*The Gray Barn Nursery
20871 Redmond-Fall City Road in Redmond
206 868-5757*



Refresh
your home,
garden
& spirit.



No one knows plants like Molbak's™

*Seattle Garden Center
Pike Place Market
206-448-0431*

Molbak's

*13625 N.E. 175th Street
Woodinville, WA 98072
425-483-5000*

WASHINGTON PARK

ARBORETUM

The Arboretum Foundation
2300 Arboretum Drive East
Seattle, WA 98112
(206) 325-4510

**Arboretum ~
a living
museum of
woody
plants for
research,
education,
conservation,
and display.**

**Nonprofit Org.
US Postage
PAID
Seattle, WA
Permit No. 126**